

# United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	D. FILING DATE		FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO. 9314	
09/776,599	02/01/2001		Kenneth F. Buechler	071949-2404		
30542	7590	03/10/2004		EXAMINER		
FOLEY &	LARDN.	ER	EPPERSON, JON D			
P.O. BOX 80		2138-0278		ART UNIT PAPER NUM		
SAN DIEGO, CA 92138-0278				1639		
				DATE MAILED: 03/10/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

3		Applicat	ion No.	Applicant(s)					
Office Action Summary			599	BUECHLER ET A	L.				
			er	Art Unit					
			person	1639					
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply									
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.  - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).									
Status									
1)🛛	Responsive to communication(s) filed	on <u>08 December :</u>	<u>2003</u> .						
2a) <u></u> □	This action is FINAL. 2b)⊠ This action is non-final.								
3) 🗌	] Since this application is in condition for allowance except for formal matters, prosecution as to the merits is								
	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.								
Disposition of Claims									
5) □ 6) ⊠ 7) □	Claim(s) 30-46 is/are pending in the ap 4a) Of the above claim(s) 32-41,43,44 a Claim(s) is/are allowed. Claim(s) 30,31,42 and 45 is/are rejected Claim(s) is/are objected to. Claim(s) are subject to restriction	and 46 is/are with		on.					
Application Papers									
9) 🗌 '	The specification is objected to by the E	Examiner.							
10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.									
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).									
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).									
11)[_]	The oath or declaration is objected to b	y the Examiner. N	lote the attached Office	Action or form P	ГО-152.				
Priority u	ınder 35 U.S.C. § 119								
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.									
Attachment	t(s)				,				
1) Notic	e of References Cited (PTO-892)		4) Interview Summary						
3) 🛛 Inform	e of Draftsperson's Patent Drawing Review (PTO nation Disclosure Statement(s) (PTO-1449 or PT r No(s)/Mail Date <u>12/8/2003</u> .		Paper No(s)/Mail Da 5) Notice of Informal P 6) Other:		O-152)				

Art Unit: 1639

**DETAILED ACTION** 

Page 2

Request for Continued Examination (RCE)

A request for continued examination (RCE) under 37 CFR 1.114, including the fee set 1.

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application

is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR

1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn

pursuant to 37 CFR 1.114. Applicant's submission filed on 12/8/2003 has been entered. No

claims were canceled, amended or added. Therefore, claims 30-46 are still pending. Claims 32-

41, 43-44 and 46 are drawn to non-elected species and/or inventions and thus these claims

remain withdrawn from further consideration by the examiner, 37 CFR 1.142(b), there being no

allowable generic claim. Therefore, claims 30-31, 42 and 45 are examined on the merits in this

action.

Those sections of Title 35, US code, not included in the instant action can be found in

previous office actions.

Withdrawn Objections/Rejections

2. The Wheeler et al., Sounik et al. and Vener et al. rejection under 35 U.S.C. 103(a) is

hereby withdrawn in view of Applicants arguments. All other rejections are maintained and the

arguments are addressed below.

**Outstanding Objections and/or Rejections** 

Claim Rejections - 35 USC § 103

Claims 30-31 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sounik et al (EPO 0391284 A1) (Date of Publication is **October 10, 1990**) and Wheeler et al (Wheeler, B. L.; Nagasubramanian, G.; Bard, A. J.; Schechtman, L. A.; Dininny, D. R.; Kenney, M. E. "A Silicon Phthalocyanine and a Silicon Naphthalocyanine: Synthesis, Electrochemistry, and Eletrogenerated Chemiluminescene" *J. Am. Chem. Soc.* **1984**, *106*, 7404-7410) and the admission of prior art in the specification (see below) and Rembaum et al (U.S. Patent No. 4,326,008) and Schwartz et al (U.S. Patent No. 4,609,689) and Oguri et al (U.S. Patent No. 5,254,887) and Wang et al (U.S. Patent No. 4,420,568) and Fino et al (U.S. Pat. Nos. 4,476,229).

For *claim 30-31 and 45*, Sounik et al (see entire document) teach the formation and use of water insoluble dye mixtures (i.e., more than one or "two" water insoluble dye compounds) including mixtures that comprise substituted and/or unsubstituted silicon phthalocyanine, naphthalocyanine and anthracyanine structures (e.g., see Sounik et al, page, 2, last paragraph; see also claims, especially claims 1-5 and 9; see also page 4, lines 3-23). Furthermore, Applicants' specification admits, "[o]ne skilled in the art will recognize that water insoluble dyes [like the water insoluble dyes disclosed by Sounik et al] can be incorporated into latex particles as described in U.S. Pat. Nos. 4,326,008, 4,609,689 and 5,254,887, which are hereby incorporated by reference. Thus, water insoluble dyes can be made useful by incorporation into latex particles for visualization in a variety of assay formats" (see admission of prior art in specification, page 9, lines 9-16; see also page 37, paragraph 1). Applicants further admit that small particle sizes

between 0.1 nm and 5000 nm were known in the art as of the time of filing (e.g., see specification, page 30, paragraph 1, "The small particle sizes (0.1-1 nm) may be employed in fluorescence polarization assays, as described for example, in U.S. Pat. Nos. 4,420,568, 4,476,229 and 4,510,251, in vitro visualization of cellular components or in vivo imaging techniques").

The prior art teachings of Sounik et al and Applicants admission in the specification differ from the claimed invention as follows:

For *claim 30-31 and 45*, Sounik et al is deficient in that it does not specifically teach the use of either "dimethylhexylvinylsilyloxide" or "trihexylsilyloxide" as the ligands to the Si metal. Sounik et al. only disclose a genus that encompasses Applicants' claimed compounds and a dimethyloctadecylsiloxide "methylene" homologue (see Sounik et al. Examples 1-2, wherein "dimethyloctadecylsilox[ide]" is disclosed; see also page 4, lines 20-24 wherein any "siloxy" group is disclosed by the generic formula wherein Z is defined as an "siloxy" group, which would include the "dimethyloctadecylsiloxide" group in Examples 1-2 and the "dimthylhexylvinylsilyoxide" and "trihexylsilyloxide" groups claimed by Applicants).

However, Wheeler et al teaches the following limitations that are deficient in Sounik et al and the admission of prior art in the specification:

For *claim 30-31 and 45*, Wheeler et al (see entire document) teach the use of a "trihexylsilyloxide" (see Wheeler et al, abstract; see also page 7404, paragraph 1; see also figure 1). Wheeler et al further disclose that these compounds are "fluorescent" (see Wheeler et al, page 7409, "Absorption and Fluorescence" section; see also Figure 8

Art Unit: 1639

wherein the fluorescence spectrum for  $SiPc[OSi(n-C_6H_{13})_3]_2$  is presented).

It would have been obvious to one skilled in the art at the time the invention was made to make latex particles as taught by the prior art disclosed in the specification with the mixed silicon phthalocyanine, naphthalocyanine and/or anthracyanine dyes as taught by Sounik et al. and Wheeler et al. because Applicants' specification admits that "[o]ne skilled in the art will recognize that water insoluble dyes [like the ones disclosed by Wheeler et al. and Sounik et al.] can be incorporated into latex particles as described in U.S. Pat. Nos. 4,326,008, 4,609,689 and 5,254,887" (see admission in specification, page 9, lines 9-16; see also page 37, paragraph 1). Furthermore, a person of skill in the art would have been motivated to use the dyes disclosed by Wheeler et al. and Sounik et al. because "water insoluble dyes can be made useful by incorporation into latex particles for visualization in a variety of assay formats" (see admission of prior art in specification, page 9, lines 9-16).

In addition, one of ordinary skill in the art would have been especially motivated to use the silicon phthalocyanine bis(trihexylsilyloxide) and silicon naphthalocyanine bis(trihexylsilyloxide) compounds as taught by Sounik et al. and Wheeler et al because according to Wheeler et al "[t]he presence of the trialkylsiloxy groups on the central Si atom leads to relatively high solubility in these compounds and permits studies of solutions of them at the millimolar level" (see Wheeler et al, sentence bridging pages 7404-7405), which would be beneficial in assays i.e., low or no solubility would render an assay inoperable.

Furthermore, one of ordinary skill in the art would have reasonably expected to be

Art Unit: 1639

successful because Wheeler et al further disclose that the compounds "show high thermal and chemical stability and interesting optical ... properties" (see Wheeler et al, page 7404, paragraph 1) and their "solubility" can be adjusted by varying the substituents on the axial ligands (e.g., see Wheeler et al, page 7406, column 2, paragraph 3, "it is clear that the solubility ... [varies] with the size and nature of their axial ligands").

### Response

4. Applicant's arguments directed to the above 35 U.S.C. § 103(a) rejection were considered (and are incorporated in their entirety herein by reference) but were not deemed persuasive for the following reasons. Please note that the above rejection has been modified from it original version as a result of Applicants' admission that a film is not comprised of particles (e.g., see 12/8/2003 Response, bottom of page 7).

Applicants argue [1] Sounik et al does not teach Applicants claimed compounds (e.g., see 12/8/2003 Response, page 7, paragraph 1), [2] the prior art does not teach "particles" (e.g., see 12/8/2003 Response, page 7, first comparison under column entitled "Deficiencies in Sounik et al"; see also page 11, paragraph 2), [3] The cited publications do not disclose any composition having the claimed compounds, much less "two" such compounds and/or provide any motivation for such (e.g., see 12/8/2003 Response, page 9, column 2, paragraph 1; see also page 12, paragraph 1; see also page 13, paragraph 1). [4] "an allegation by the Examiner that the dimethylhexylvinylsilyloxide and trihexylsilyloxide substituents recited in instant claim 30 which are attached to a coordinated silicon atom as "axial ligands" in the molecules of the claims ... are within the scope of the phrase 'aliphatic, acyclic, or aromatic substituent containing 1-12

Art Unit: 1639

carbon atoms' ... The phrase cited by the Examiner refers to substituents of the tetraazaporphyrin ring, not substituents of the coordinated silicon atom as alleged. Thus, this basis for combining the cited art is entirely unfounded" (e.g., see page 12/8/2003 Response, 10, paragraph 1; see also page 13, paragraph 2), [5] "the Examiner points to a statement in the 'Background of the Invention' section of the Sounik et al. publication, which is merely an acknowledgment that the Wheeler et al. publication exists. This statement indicates that the authors of the primary Sounik et al. publication were fully aware of the secondary Wheeler et al. publication; yet, as evidenced by the fact that such molecules do not appear anywhere in the remaining description or claims of the primary Sounik et al. publication, those same authors apparently did not consider the molecules disclosed by the Wheeler et al. publication suitable for their purposes" (e.g., see 12/8/2003 Response, page 10, last paragraph), [6] no "fluorescent" particles are disclosed (e.g., see 12/8/2003 Response, page 11, last paragraph), [7] there is no "motivation" to provide two different fluorescent molecules (e.g., see page 12, last paragraph), [8] the Examiner quotes 'light absorption over a spectrum range of about 660-860 nm' for motivation, which is false (e.g., see 12/8/2003 Response, page 14, paragraph 1), [9] the Examiner's motivation is based on hindsight 9e.g., see page 14, paragraph 2), [10] the Examiner has failed to properly consider Applicants' unexpected results, especially the fluorescence energy transfer ("FET") that occurs betwee the members of the dye pair (e.g., see 12/8/2003 Response, pages 14-15).

This is not found persuasive for the following reasons:

The Examiner contends the following:

[1] In response to applicants' arguments against the Sounik et al reference individually, one cannot show nonobviousness by attacking references individually where the rejections are

based on combinations of references. See In re Keller, 642 F.2d413, 208 USPQ871 (CCPA 1981); In re Merck & Co., 800 F.2d1091, 231 USPQ375 (Fed. Cir. 1986). Here, Applicants' claimed compounds are taught by the combined references including the "dimethylhexylvinylsiloxide" and "trihexylsiloxide" compounds (see newly revised rejection, above), [2] In response to applicants' arguments against the Sounik et al. or Wheeler et al. reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d413, 208 USPQ871 (CCPA 1981); In re Merck & Co., 800 F.2d1091, 231 USPQ375 (Fed. Cir. 1986). Here, Applicants' claimed "particles" are disclosed by the admission of prior art in the specification (see newly amended rejection above). Furthermore, it is not clear what is meant by a "particle" and, as a result, the mixtures of compounds disclosed by Wheeler et al. and Sounik et a. also constitute "particles" (see 35 U.S.C. § 112, second paragraph rejection, below), [3] In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching. suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d1071, 5 USPQ2d1596 (Fed. Cir. 1988) and In re Jones, 958 F.2d347, 21 USPQ2d1941 (Fed. Cir. 1992). In this case, the Examiner contends that there is motivation to combine these references as set forth by the original rejection (see above). Furthermore, the Examiner argues that "motivation" does not have to be provided for "each" molecule as Applicants contend because "there is no requirement that the prior art provide the same reason as the applicant to make the claimed

invention", see MPEP § 2144". In addition, the combined references do disclose Applicants claimed compounds including silicon phthaolcyanine bis(trihexylsilyloxide) and combinations thereof e.g., the use of "two" dyes (see amended rejection above, especially where it recites the use of "more than one" dye), [4] The Examiner agrees that the phrase previously recited by the Examiner was in error and does in fact refer to the substituents of the tetraazaporphyrin ring and not to the substituents of the coordinated silicon atom. However, the Examiner does not agree that this basis for combining the cited art is entirely unfounded because (as the newly amended rejection points out) support for this same line of reasoning can be found on page 4, lines 20-24 wherein Zn which does refer to the substituents on the coordinated silicon atom are defined (i.e., a typographical error was made in the citation), [5] The Examiner contends that the molecules disclosed by Wheeler et al. do fall within the generic formula of Sounik et al as outlined in the newly amended rejection above. Therefore, Applicants arguments are unwarranted (e.g., see Sounik et al, page 4, lines 20-24 wherein the compounds of Wheeler et al. fall within the scope of the formulate, [6] Fluorescent particles are disclosed (see amended claim above). Furthermore, the same compounds in the same latex beads are disclosed. Furthermore, the preamble of claim (i.e., where the term "fluorescent" is used) is not usually afforded patentable weight. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951), [7] Applicants arguments are not commensurate in scope with Applicants claims because two "different" molecules are not

Art Unit: 1639

required i.e., the "first" and the "second" compounds listed in claim 30 can be the same, [8] This motivational statement has been removed from the newly amended rejection and, as a result, Applicants arguments on this point are moot, [9] In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ209 (CCPA 1971), [10] Applicants arguments and/or unexpected results are not commensurate in scope to Applicants claims because Applicants claims are not limited to dye pairs that undergo fluorescence energy transfer ("FET").

Accordingly, the 35 U.S.C. § 103(a) rejection cited above is hereby maintained.

## **Double Patenting**

Claims 30-31, 42 and 45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-136 of U.S. Patent No. 6,251,687 (especially claim 104). An obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but an examined application claim not is patentably distinct from the reference claim(s) because the examined claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re* 

Art Unit: 1639

Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1986). Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 30-31, 42 and 45 are generic to all that is recited in claim 104 of U.S. Patent No. 6,251,687. That is, claim 104 of U.S. Patent No. 6,251,687 falls entirely within the scope of claims 30-31, 42 and 45 or, in other words, claims 30-31, 42 and 45 are anticipated by claim 104 of U.S. Patent No. 6,251,687. First, claim 104 of '687 discloses silicon phthalocyanine bis(dimethylhexylvinylsilyloxide) and silicon[di(1,6-diphenylnaphthalocyanine]diphthalocyanine bis(dimethylhexylvinylsilyloxide) (note claim 104 recites claim 100 using the "or" phraseology), which falls entirely within the scope of claims 30-31, 42 and 45 because these two compounds are recited in claims 30-31, 42 and 45 or depend on claims that recite these two compounds. Second, claim 104 of '687 recites the use of a latex particle, which falls entirely within the scope of claims 30-31, 42 and 45 because claims 30-31, 42 and 45 either explicitly recite the use of latex (i.e., claim 31) or use "comprising" terminology that would include latex. Finally, claim 104 of '687 also falls entirely within the scope of claim 45 because the specification defines the claimed particles as having a "[p]referred particle sizes range from about 0.1 nm to 5000 nm" (see U.S. Patent No. 6,251,687, specification, "Incorporation of Dyes into Particles" Section, second paragraph). Please note that that "those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent" (MPEP § 804).

Page 11

#### Response

6. Applicant's arguments directed to the above double patenting rejection were fully

Art Unit: 1639

considered but were not deemed persuasive for the following reasons. Please note that the above rejection has been modified from it original version to more clearly address applicants' newly amended and/or added claims and/or arguments.

Applicant argues, "Applicants acknowledge the obviousness-type double patenting rejection of claims 30-31, 42 and 45. Should the claims be found allowable as presently written, a terminal disclaimer will be submitted" (see 12/8/03 Response, page 17, last paragraph; see also Paper No. 10, page 16, last paragraph).

This is not found persuasive for the following reasons:

The Examiner contends that Applicants have "acknowledged" their duty to submit a terminal disclaim, but have not done so and, as a result, the double patenting rejection is hereby maintained.

#### **New Rejection**

# Claims Rejections - 35 U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 7. Claims 30, 31, 42 and 45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - A. For claims 30-31, 42 and 45, the term "particle" is vague and indefinite. For example, it is not clear what constitutes a "particle"? Applicants do not specify the size,

shape, composition or any other distinguishing physical/chemical properties of a "particle." Therefore, it is not clear how this term further limits the claimed invention. Consequently, the metes and bounds of the claimed limitation invention cannot be determined.

## Claims Rejections - 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- 8. Claims 1 and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Wheeler et al. (Wheeler, B. L.; Nagasubramanian, G.; Bard, A. J.; Schechtman, L. A.; Dininny, D. R.; Kenney, M. E. "A Silicon Phthalocyanine and a Silicon Naphthalocyanine: Synthesis, Electrochemistry, and Eletrogenerated Chemiluminescene" *J. Am. Chem. Soc.* 1984, 106, 7404-7410).

For *claim 1 and 45*, to the extent that the word "particle" encompasses "alumina" used in chromatography (see 35 U.S.C. 112, second paragraph rejection above), Wheeler et al. anticipated the claimed invention. For example, Wheeler et al (see entire document) disclose SiPc[OSi(n-C<sub>6</sub>H<sub>13</sub>)<sub>3</sub>]<sub>2</sub> compounds bound to Alumina particles (see Wheeler et al, page 7405, column 2, section on SiPc[OSi(n-C<sub>6</sub>H<sub>13</sub>)<sub>3</sub>]<sub>2</sub> synthesis), which anticipates claims 1 and 45. In this scenario, both the "first" and "second" compounds claimed by the Applicants are the same compound i.e., SiPc[OSi(n-C<sub>6</sub>H<sub>13</sub>)<sub>3</sub>]<sub>2</sub> i.e., the

SiPc[OSi(n-C<sub>6</sub>H<sub>13</sub>)<sub>3</sub>]<sub>2</sub> compounds bind to the alumina before they are eluted with toluene-hexane. The reference doesn't explicitly state the size of the alumina particles, but small particles are generally used in chromatography. "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

#### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (571) 272-0808. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon D. Epperson, Ph.D. March 7, 2004